(12) UK Patent Application (19) GB (11) 2 336 695 (13) A

(21) Application No 9808341.3

(22) Date of Filing 20.04.1998

(71) Applicant(s)
TeamWARE Group Oy
(Incorporated in Finland)
Malminkartanonkuja 2, 00390 Helsinki, Finland

(72) Inventor(s)
Peter Stoye

(74) Agent and/or Address for Service
Cruikshank & Fairweather
19 Royal Exchange Square, GLASGOW, G1 3AE,
United Kingdom

(51) INT CL⁶
G06F 17/60

(52) UK CL (Edition Q)
G4A AUXX

(56) Documents Cited
US 5528745 A

(58) Field of Search
UK CL (Edition P) G4A AUDB AUXX
INT CL⁶ G06F

(54) Abstract Title
Modelling a work process

(57) A method of creating and/or modifying a work process model, comprising a plurality of process steps, on a computer having a video display unit and user data input means e.g. including a keyboard and a mouse, comprises selecting one of a list presentation and a graphical presentation of the work process model for display in active work display window, whilst displaying the graphical presentation in a view display window. The work process is created or modified by using the user data input means to make changes to the process presentation displayed in the active work display window. In response to these changes, the graphical process presentation displayed in the view display window is updated.

GB 2 336 695 A

Figure 1

Release Version 1.1 266 (TeamWARE Dolphin)

Process Activity Documents Options Help

New Process | Make Changes | Save Changes | Cancel Changes | Add Message

Release Version 1.1 266

Details | Plan

My Activities | Processes

All Active Processes

Title	Desc
test process 256	test
Release Version 1.1 266	This
Plan Editing Test 1 217	Sacr... This
GroupTest1 242	This

Done

NOGO: Repeat Review

Beckley Darren

Releas e the Product

GO: Proceed to Release

Activity Designer

Activity: Release the Product

No-one is making changes

Steve Peter

Ready.

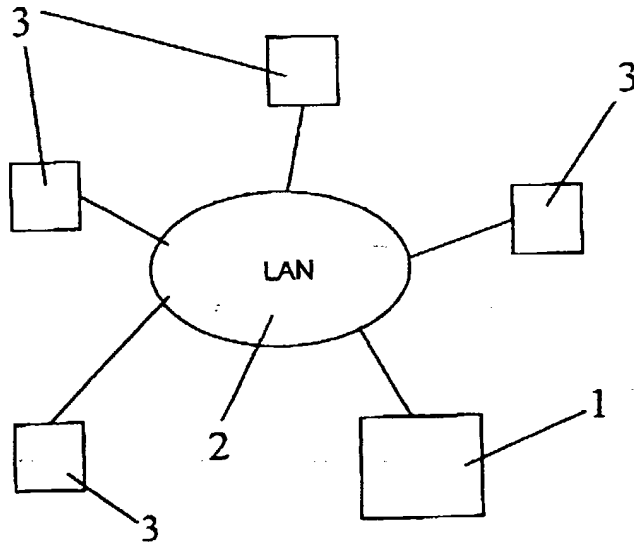Start | Work... | trffi... | Ollie... | Micro... | Explo... | Sou... | Rel... | until... | genoa | 16:24
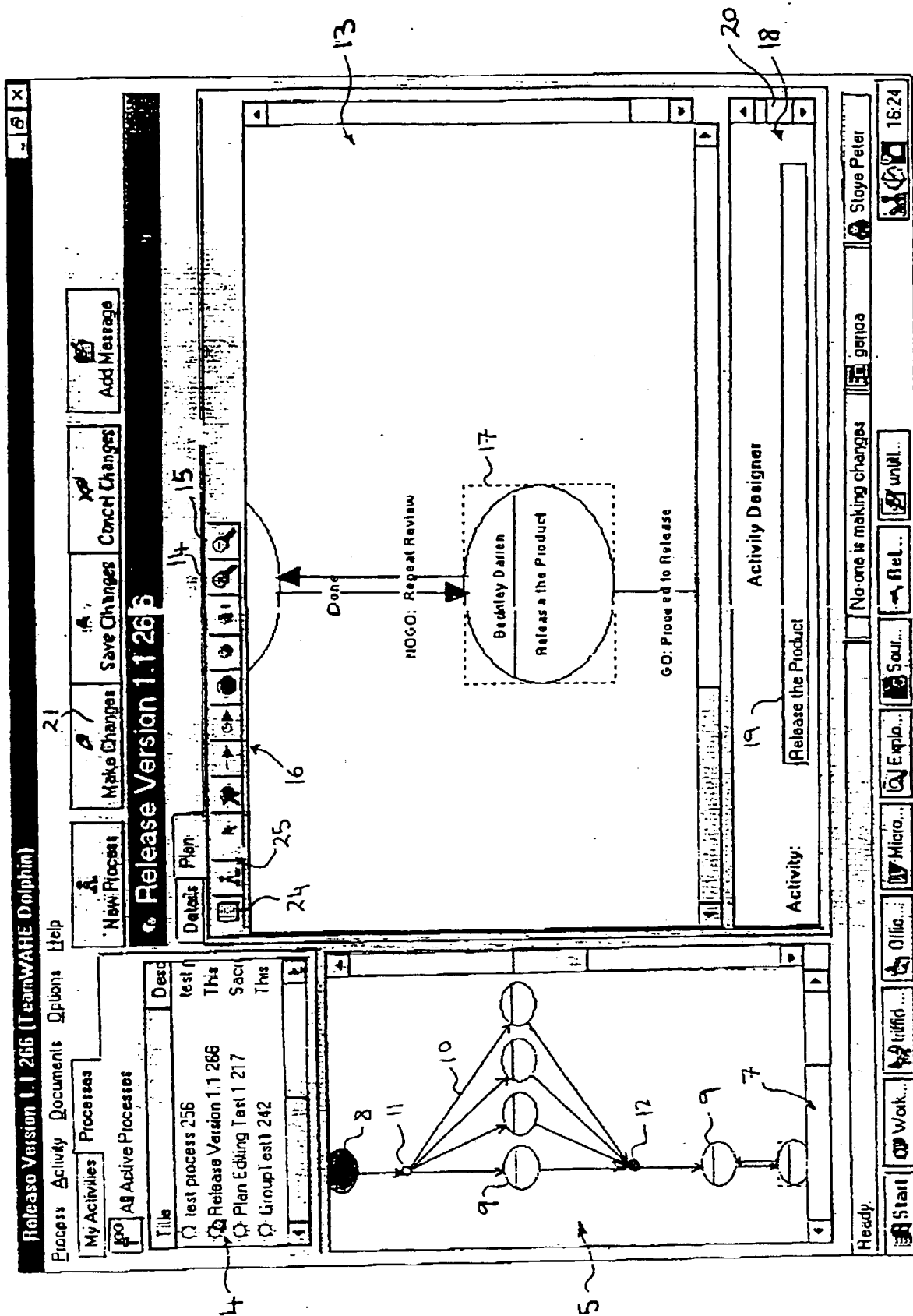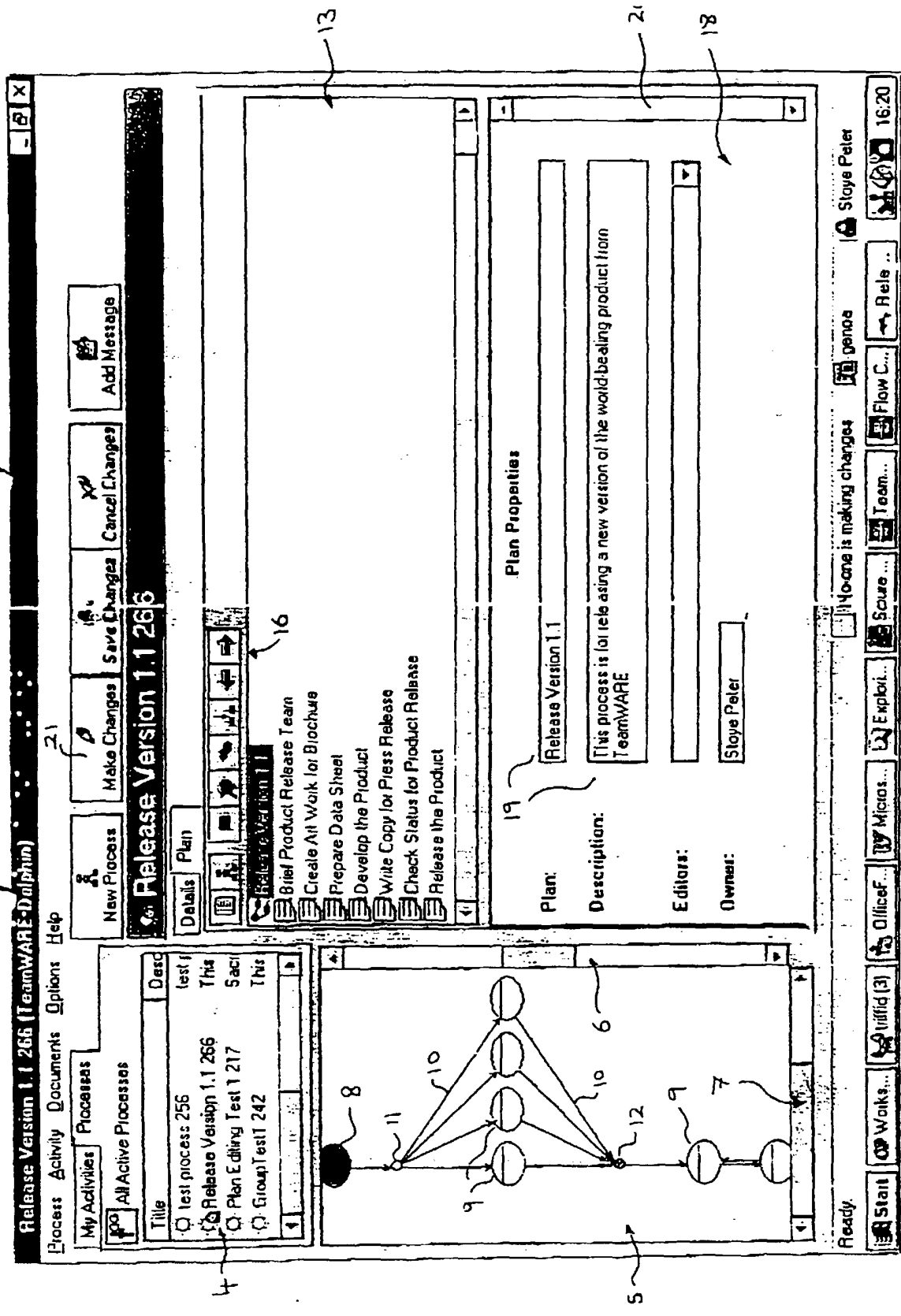
FIGURE 2

FIGURE 3

A METHOD AND APPARATUS FOR MODELLING A PROCESS

The present invention relates to a method and apparatus for modelling a process and more particularly to the modelling of a work process by computer.

5

In modem business organisations, team ɔr group working often plays an important role. Traditionally, group working has been organised in an *ad hoc* manner involving preliminary meetings, update meetings, telephone calls, memoranda, and more recently electronic-mail. In order to organise group working more efficiently, use has

10   often been made of work process diagrams, resembling flowcharts, in which tasks to be completed are illustrated graphically, e.g. by a suitable box, interconnected by lines or arrows which illustrate the general order in which the steps should be completed.

15   Complex work processes are often difficult to portray on paper and resort has therefore recently been taken to process modelling by computer. A number of computer programs are now available which allow a user to create a graphical illustration of a work process on-screen using point-and-click techniques. A significant advantage of such models is that they may contain many "layers" of

20   normally hidden text allowing large amounts of information to be included whilst maintaining the overall graphical representation of the models relatively simple. A further advantage is that a user can easily modify a model once created, e.g. adding further process steps or changing existing ones, and can record when a step has been completed.

25

In terms of aiding group working, computer process modelling can be made available to all the members of a group by using a client-server computing architecture. In this architecture, a main program running on a server of a Local Area Network (LAN) maintains a record of the basic structure of a process model and also of any changes

30   made to that model. Client programs running on individual Personal Computers (PC) belonging to group members enable the members to create a model to reside on the server, or to modify a model already existing there. When a user accesses the server based process model, he sees any changes which have been made to the

model by other members of the group. This type of client-server product is often known as "groupware".

Whilst computer based process modelling products have proved to be a significant advance over the use of pen and paper in creating clear and dynamic graphical models, the user interface provided for users often proves difficult, especially for first time or relatively inexperienced users.

According to a first aspect of the present invention there is provided a method of creating and/or modifying a work process model, comprising a plurality of process steps, on a computer having a display and user data input means, the method comprising:

defining an active work display window and a view display window;

selecting one of a list presentation and a graphical presentation of the work process model for display in the active work display window, whilst displaying the graphical representation in the view display window;

creating and/or modifying the work process model by using the user data input means to make changes to the process presentation displayed in the active work display window; and

in response to changes made to the process presentation displayed in the active work display window, updating the graphical process presentation displayed in the view display window.

Embodiments of the present invention provide a user with the choice of creating or modifying a process model using either a graphical or a list-based presentation of the model. It has been found that users unfamiliar with computer-based process modelling often find a graphical presentation difficult to use and the list-based presentation provides a preferred alternative. However, once a user is familiar with process modelling, he or she often prefers to use the graphical presentation and this too is available with embodiments of the invention. In either case, embodiments of the invention may provide the user with an overview of the graphical presentation in the view display window.

Preferably, the list process presentation comprises a sequential list of tabulated process steps described by textual legends. More preferably, these steps are displayed substantially in the order in which they are to be performed. A graphical icon may be displayed adjacent to each step, which icon has the purpose of
5   identifying to a user the general nature of the step.

Preferably, when the list process presentation is selected for display in the active work display window, a set of icons are displayed adjacent to the active work display window and which provide user-actuatable "buttons" by which the user can create or
10   modify the work process model.

Preferably, the graphical process presentation comprises a set of geometric shapes, each of which represents a process step. More preferably, the displayed shapes are linked by lines which identify to a user the order in which the steps are to be
15   performed.

Preferably, the method comprises storing a record of said process model on a server computer of a communication network, downloading a copy of said record from the server computer to a client computer also connected to the communication network,
20   wherein said step of creating and/or modifying the work process model is carried out using said client computer.

According to a second aspect of the present invention there is provided apparatus for creating and/or modifying a work process model, comprising a plurality of process
25   steps, the apparatus comprising a computer having a display, the computer having:

first processing means arranged in use to define an active work display window and a view display window on said display;

user operable selection means for selecting one of a list presentation and a graphical presentation of the work process model for display in the active work
30   display window, whilst displaying the graphical representation in the view display window;

user data input means for enabling a user to create and/or modify the work process model by making changes to the process presentation displayed in the active work display window; and

second processing means arranged, in response to changes made to the process presentation displayed in the active work display window, to update the graphical process presentation displayed in the view display window.

5   For a better understanding of the present invention and in order to show how the same may be carried into effect reference will now be made, by way example, to the accompanying drawings, in which:

Figure 1 shows a typical client-server computer network architecture;

Figure 2 shows a first display screen produced by a computer-based work

10   process modelling program according to an embodiment of the present invention; and

Figure 3 shows a second alternative display screen.

With reference to Figure 1, a groupware program resides on a server computer 1 of a Local Area Network (LAN) 2. This program may be a known program such as the

15   TeamWARE FLOW™ program available from TeamWARE Group Oy (Helsinki, Finland). The server-based program maintains a record, in a memory of the server 1, of a work process model created on one of a plurality of client computers 3 (e.g. PCs each having a conventional mouse and keyboard), connected to each other and to the server 1 via the LAN 2. The record contains the basic, or "raw" data defining the

20   process model including the title of the process, the number of process steps, text information associated with each step, etc.

All of the client computers 3 are able to access the server 1 to download a process therefrom. This may be done at any time. In addition, all of the client computers 3

25   may introduce changes into a process model, or create a new model, but this can only be done by one client computer 3 at a time. When a model is downloaded from the server 1 to a client computer 3, this model includes the most recently recorded changes thereto.

30   As already noted, the server-based program may be conventional. In addition, the software interface between the server-based program and a client-based program, which provides the end-user interface, may also be conventional. However, the user-interface itself, which presents the process model to the user and which enables a

user to create and modify a model, is not conventional as will be apparent from the following discussion.

Figure 2 to shows a first display screen which may be presented to a user on a video
5   display unit (VDU) of a client computer 3. More particularly, this screen is displayed following the opening of the client application and the downloading of a process model from the server computer 1. The display screen of Figure 2 is based upon a Microsoft Windows™ layout and comprises four display windows.

10   The top left window 4 in Figure 2 is referred to as an "Organiser" window and lists all of the process models which the client computer 3 has access to on the server 1. A particular process model may be selected by a user using his computer mouse. In Figure 2, the process model titled "Release Version 1.1 266" is currently selected - this process model can be assumed to have been created at some earlier time.

15

The bottom left window 5 is referred to as a "Graphical View-Only" window and contains a graphical illustration, resembling a flowchart, of the currently selected process model (i.e. the Release Version 1.1 266 process model). If the illustration is too large to fit in the window 5, the user may scroll up and down, and across, the
20   display, using the right and bottom scroll bars 6,7. The beginning and end steps of the process may be identified by hexagonal shaped boxes, although in Figure 2 these boxes are not shown as they lie above and below the displayed area. Each intermediate step in the process is identified by an oval shaped box. Completed steps 8 are shown shaded, whilst uncompleted steps 9 remain empty (white). The
25   arrows 10 in the illustration indicate the order in which the steps are to be carried out. A circle 11,12 indicates the division of the process into steps which are to be carried out in parallel, or the continuation of the process once these parallel steps have been completed. It is noted that the window 5 is merely for the purpose of displaying the graphical illustration of the model, and does not play a direct role in the creation or
30   modification of a process model.

On the contrary, creation or modification of a process model is done using the two right hand windows. The top right window 13 is referred to as the "Work View" and enables a user to initiate creation of a model, to add steps to a model, and to enter

step specific information. Within the Work View, the user has a choice between two different model presentations, referred to as the "Graphical Presentation" and the "List Presentation". The Graphical Presentation will be described first and is that illustrated in the Work View 13 in Figure 2.

5

The Work View 13 in Figure 2 shows a portion of the graphical model illustration shown in the Graphical View-Only window 5. The model can be magnified or demagnified using buttons 14,15 present on the menu bar 16 directly above the Work View 13. By clicking the cursor on a particular process step, the user is able to
10   display further data associated with that step. A selected step is displayed surrounded by a dashed line 17 and certain text information associated with the step appears. In Figure 2, a step titled "Release the Product", assigned to the group member Beckey Darren, is shown selected.

15   Following selection of a step in the Work View 13, an information template associated with that step is displayed in the lower right window 18. This window 18 is referred to as the "Properties" window and contains a number of named fields 19 in which a user may enter or amend information. Again, a right scroll bar 20 allows the user to move up and down the information template. Information templates may be specific to
20   process model steps. For example, the template associated with the "Begin" step may contain a field for the title of the project and a field for the project leader, whist the template associated with intermediate process steps may contain a field for the group member allocated to the step and a field for details of the step.

25   Using the Work View 13, a user is able to add process steps. For example, with reference to Figure 1, a user may activate all of the buttons on the menu bar 16 by clicking on the Make Changes button 21. Then, by clicking on an appropriate button in the menu bar 16, a new step (oval box) can be made to appear in the View. The position of the box can be adjusted by clicking the cursor on the box and dragging it
30   to a desired position. Connection lines 10 are added using other buttons in the menu bar 16 and similarly a process may be split into two parallel paths, or parallel paths joined together, using still other menu bar buttons..

Two buttons 24,25 provided on the Work View menu bar 16 allow a user to switch between the Graphical Presentation (described above) and the List Presentation. The latter is shown in the Work View 13 of Figure 3. In contrast to the Graphical Presentation, the List Presentation displays the selected process model in the form of

5 . a tabulated list of steps. Each step comprises a small icon indicating the nature of the step, i.e. begin and intermediate step, and a short text description. Each step in the list corresponds to one of the steps in the graphical presentation, and the order of the steps corresponds to the general order in which the steps are to be completed. Steps to be carried out in parallel are listed adjacent to one another. For example,

10 the steps "Create Art Work for Brochure", "Prepare Data Sheet", "Develop the Product", and "Write Copy for Press Release" correspond to the four parallel steps shown from left to right in the Graphical View-Only window 5. As with the Graphical Presentation, changes may be made to the model in the List Presentation using the Work View menu bar 16.

15

When a user terminates a process model creation or modification session, the new model or the changes are communicated from the client computer 3 to the server 1 over the LAN. The record stored in the server 1 for that particular process model then reflects the latest version.

20

It will be apparent from Figure 3 that the Organiser window 4, the Graphical View-Only window 5, and the Properties window 18 all display information in the same . format as when the Graphical Presentation exists in the Work View 13 (see Figure 2). Thus, even when using the List Presentation, a user is able to consider the Graphical

25 Presentation in the Graphical display window which is automatically updated to reflect changed made to the model using the Work View 13.

The embodiment described above may be implemented using known computer and network hardware. Appropriate software to perform the described functionality may

30 be produced by the person of skill in the art without undue burden.

It will be appreciated by the skilled person that various modifications may be made to the above described embodiment without departing from the scope of the present invention. For example, whilst the embodiment described above makes use of a

server and a number of client computers interconnected by a LAN, the invention may be employed where interconnectivity is achieved using a Wide Area Network (WAN) such as the Internet. The invention may also be applied to provide a stand alone computer.

5

Claims   .

1.   A method of creating and/or modifying a work process model, comprising a plurality of process steps, on a computer having a display and user data input means,
5   the method comprising:

defining an active work display window and a view display window;

selecting one of a list presentation and a graphical presentation of the work process model for display in the active work display window, whilst displaying the graphical presentation in the view display window;

10   creating and/or modifying the work process model by using the user data input means to make changes to the process presentation displayed in the active work display window; and

in response to changes made to the process presentation displayed in the active work display window, updating the graphical process presentation displayed in
15   the view display window.

2.   A method according to claim 1 and comprising displaying the list process presentation as a list of tabulated process steps described by textual legends.

20   3.   A method according to claim 2 and comprising displaying the steps substantially in the order in which they are to be performed.

4.   A method according to any one of the preceding claims and comprising, when the list process presentation is selected for display in the active work display window,
25   displaying a set of icons adjacent to the active work display window and which provide user-actuatable "buttons" by which the user can create or modify the work process model.

5.   A method according to any one of the preceding claims and comprising
30   storing a record of said process model on a server computer of a communication network, downloading a copy of said record from the server computer to a client computer also connected to the communication network, wherein said step of creating and/or modifying the work process model is carried out using said client computer.

6.   A method of creating and/or modifying a work process model substantially as hereinbefore described with reference to the accompanying drawings.

5   7.   Apparatus for creating and/or modifying a work process model, comprising a plurality of process steps, the apparatus comprising a computer having a display, the computer having:

first processing means arranged in use to define an active work display window and a view display window on said display;

10   user operable selection means for selecting one of a list presentation and a graphical presentation of the work process model for display in the active work display window, whilst displaying the graphical representation in the view display window;

user data input means for enabling a user to create and/or modify the work

15   process model by making changes to the process presentation displayed in the active work display window; and

second processing means arranged, in response to changes made to the process presentation displayed in the active work display window, to update the graphical process presentation displayed in the view display window.

20

8.   Apparatus for creating and/or modifying a work process model substantially as hereinbefore described with reference to the accompanying drawings.

The Patent Office

ⅼⅼ

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

    UK Cl (Ed.P): G4A (AUXX, AUDB)

      Int Cl (Ed.6): G06F

Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	US 5528745 (KING ET AL) eg abstract	-

An Executive Agency of the Department of Trade and Industry